REMARKS

Claims 1-10 have been examined on their merits. Claims 11-20 remain withdrawn from consideration as being drawn to a non-elected invention.

Applicant herein cancels claims 2 and 4 without prejudice and/or disclaimer.

Applicant herein amends claims 1 and 3. Support for the amendments to claims 1 and 3 can be found, for example in Figure 4 and 6 of the instant application.

Claims 1, 3 and 5-20 are all the claims presently pending in the application.

1. Claims 1-6 and 10 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Samuels *et al.* (U.S. Patent No. 4,524,114). The rejection of claims 2 and 4 is now moot due to their cancellation. Applicant respectfully traverses the rejection of claims 1, 3, 5, 6 and 10 for at least the reasons discussed below.

To support a conclusion that a claimed invention lacks novelty under 35 U.S.C. § 102, a single source must teach all of the elements of a claim. *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1379 (Fed. Cir. 1986). A claim is anticipated only if each and every element as set forth in the claim is found either expressly or inherently in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). A single source must disclose all of the claimed elements arranged as in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). Rejections under 35 U.S.C. § 102 are proper only when the claimed subject matter is identically disclosed or described in the prior

art. Thus, the cited reference must clearly and unequivocally disclose every element and limitation of the claimed invention.

Samuels *et al.* fail to teach or suggest a fuel cell electrode comprising a porous polymer that is provided in a portion of pores of a catalyst layer or both in the portion of pores and on the surface of the catalyst layer, as recited in claim 1. The Patent Office equates the hydrophobic gas permeable layer (1) of Samuels *et al.* to the porous polymer material recited in claim 1 of the instant invention. However, as evident from a comparison of Figure 1 of Samuels *et al.* and Figures 4 and 6 of the instant application, Samuels *et al.* fail to teach or suggest that the hydrophobic gas permeable layer is disposed within the pores formed by the micro-dispersed reduction catalyst (2a) and fluorocarbon powder that constitute the second layer (2) of Samuel *et al.*'s apparatus. The hydrophobic gas permeable layer covers the second layer of Samuel *et al.*'s apparatus, but there is no teaching or suggestion that the hydrophobic gas permeable layer is introduced into the pores of the second layer in any manner. *See, e.g.*, Figure 1 of Samuels *et al.* In sum, Samuels *et al.* lack any teaching or suggestion of a porous polymer material that is provided in a portion of pores of a catalyst layer of a fuel cell electrode or both in the portion of pores and on the surface of the catalyst layer.

Based on the foregoing reasons, Applicant submits that Samuels *et al.* fail to teach or suggest all of the claimed elements as arranged in claim 1. Therefore, under *Hybritech* and *Richardson*, Samuels *et al.* clearly cannot anticipate the present invention as recited in independent claim 1. Thus, Applicant submits that claim 1 allowable, and further submits that claims 5, 6 and 10 are allowable as well, at least by virtue of their dependency from claim 1.

Applicant respectfully requests that the Patent Office withdraw the § 102(b) rejection of claims 1, 5, 6 and 10.

With respect to independent claim 3, Applicant submits that claim 3 is allowable for at least the same reasons discussed above with respect to claim 1, in that Samuels *et al.* fail to teach or suggest a fuel cell electrode comprising a porous polymer that is provided in a portion of pores of a catalyst layer or an inside portion of an electro-conductive porous substrate. Therefore, under *Hybritech* and *Richardson*, Applicant submits that claim 3 is allowable, and further submits that claims 5, 6 and 10 are allowable as well, at least by virtue of their dependency from claim 3. Applicant respectfully requests that the Patent Office withdraw the § 102(b) rejection of claims 3, 5, 6 and 10.

2. Claims 7-9 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Samuels *et al.* in view of Yamazaki (U.S. Patent No. 4,110,392). Applicant traverses the rejection of claims 7-9 for at least the reasons discussed below.

The initial burden of establishing that a claimed invention is *prima facie* obvious rests on the USPTO. *In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984). To make its *prima facie* case of obviousness, the USPTO must satisfy three requirements:

a) The prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the artisan to modify a reference or to combine references. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988).

b) The proposed modification of the prior art must have had a reasonable expectation of success, as determined from the vantage point of the artisan at the time the invention was made. *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1209 (Fed. Cir. 1991).

c) The prior art reference or combination of references must teach or suggest all the limitations of the claims. *In re Vaeck*, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991); *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970).

The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, the nature of a problem to be solved. *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). Alternatively, the motivation may be implicit from the prior art as a whole, rather than expressly stated. *Id.* Regardless of whether the USPTO relies on an express or an implicit showing of motivation, the USPTO is obligated to provide particular findings related to its conclusion, and those findings must be clear and particular. *Id.* A broad conclusionary statement, standing alone without support, is not "evidence." *Id.; see also, In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001).

In addition, a rejection cannot be predicated on the mere identification of individual components of claimed limitations. *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000). Rather, particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed. *Id.*

The combination of Samuels *et al.* and Yamazaki fail to teach or suggest a fuel cell electrode comprising a porous polymer that fills the volume of at least one pore disposed in a

catalyst layer, as recited in claim 1 and included in claims 7-9 by virtue of their dependency. The Patent Office acknowledges that Samuels *et al.* fail to teach or suggest the pore diameter or porosity range of a fluorocarbon polymer, but asserts that Yamazki allegedly provides the necessary teaching to overcome the acknowledged deficiencies of claims 7-9. However, the combination of Samuels *et al.* and Yamazaki lack any teaching or suggestion with respect to a porous polymer material that is provided in a portion of pores of a catalyst layer or both in the portion of pores and on the surface of the catalyst layer, as recited in claim 1 and included in claims 7-9. While Yamazaki discloses, *inter alia*, porous polytetrafluoroethylene (PTFE) materials, there is no teaching or suggestion in Yamazaki that the PTFE materials are somehow used to fill pores in a catalyst layer of a fuel cell electrode. At best, the combination of Samuels *et al.* and Yamazaki discloses a catalytic electrode with a PTFE layer having pores of a particular size. In sum, there is no teaching or suggestion in the combination of Samuels *et al.* and Yamazaki a porous polymer that is provided in a portion of pores of a catalyst layer or both in the portion of pores and on the surface of the catalyst layer. Thus, Applicant submits that the Patent Office cannot fulfill the "all limitations" prong of a *prima facie* case of obviousness, as required by *In re Vaeck.*

Applicant submits that one of skill in the art would not be motivated to combine the two references. Neither reference, standing either alone or in combination, discloses the desirability of a porous polymer material that is provided in a portion of pores of a catalyst layer or both in the portion of pores and on the surface of the catalyst layer. Thus, Applicant submits that the

Patent Office cannot fulfill the motivation prong of a *prima facie* case of obviousness as well, as required by *In re Dembiczak* and *In re Zurko.*

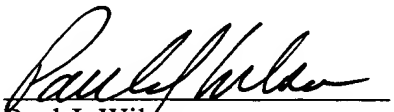
Based on the foregoing reasons, Applicant submits that the combination of Samuels *et al.* and Yamazaki fails to teach or suggest all of the claimed elements as arranged in claim 1, and included via dependency in claims 7-9. Therefore, the combination of Samuels *et al.* and Yamazaki clearly cannot render obvious the present invention as recited in claims 7-9. Thus, Applicant submits that claims 7-9 are in condition for allowance. Applicant respectfully requests that the Patent Office withdraw the § 103(a) rejection of claims 7-9.

With respect to the dependency of claims 7-9 from independent claim 3, Applicant submits that claims 7-9 are allowable for at least the same reasons discussed above with respect to claim 1, in that the combination of Samuels *et al.* and Yamazaki fails to teach or suggest a fuel cell electrode comprising a porous polymer that is provided in a portion of pores of a catalyst layer or an inside portion of an electro-conductive porous substrate. Thus, Applicants submit that claims 7-9 (dependent from claim 3) are allowable, and respectfully request that the Patent Office withdraw the § 103(a) rejection of claims 7-9.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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23373
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Date: July 13, 2004